

U. S. Patent Application No. 10/694,659
Amendment dated June 8, 2007
Reply to Office Action of March 9, 2007

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

1. (Currently amended) A magnifying observation apparatus comprising:
 - a photographing section for photographing an observation image from an observation subject;
 - an illuminating section for illuminating the observation subject;
 - an illuminating direction switching section for switching the illumination direction of said illuminating section;
 - a first observation condition setting section for setting a plurality of first observation conditions, each of the plurality of first observation conditions including a distinct pre-selected illuminating direction with respect to the observation subject;
 - a first observation image display section for displaying a plurality of first observation images of the observation subject photographed with said photographing section, each of the plurality of first observation images being acquired per a different one of the plurality of first observation conditions including a respective distinct illumination direction set with said first observation condition setting section, simultaneously on the same display screen of said display section;
 - a selection section for selecting one desired first observation image from among the plurality of first observation images displayed on said first observation image display section;
 - a second observation condition setting enabling to set further observation conditions based on the first observation condition set to the first observation image selected with said

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selection section; and

a second observation image display section for displaying a second observation image acquired based on the observation condition set with said second observation condition setting section.

2. (Previously presented) The magnifying observation apparatus according to claim 1, further comprising:

a first observation image acquisition section for acquiring first observation images per said plurality of first observation conditions set with said first observation condition setting section;

a first observation image storage section for storing a plurality of first observation images acquired with said first observation image acquisition section; and

a second observation image acquisition section for acquiring a second observation image based on the observation conditions set with said second observation condition setting section,

wherein said first observation image display section displays the plurality of first observation images stored into said first observation image display section, and said second observation image display section displays the second observation image acquired with said second observation image acquisition section.

3. (Previously presented) The magnifying observation apparatus according to claim 1, wherein said first observation image display section lists a plurality of first observation images.

4. (Previously presented) The magnifying observation apparatus according to claim 1,

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wherein said first observation image display section comprises a switching section for selectively displaying the plurality of first observation images.

5. (Previously presented) The magnifying observation apparatus according to claim 1, further comprising:

an adjustment section for performing at least positioning and focusing on a second observation image displayed on said second observation image display section before setting first observation conditions by said first observation condition setting section.

6. (Previously presented) The magnifying observation apparatus according to claim 1, wherein the first observation conditions set with said first observation condition setting section includes at least one of the control of brightness of an image, adjustment of illumination method, adjustment of an angle of an imaging section, and image processing.

7. (Previously presented) The magnifying observation apparatus according to claim 1, wherein the first observation conditions set with said first observation condition setting section includes an adjustment of illumination method and wherein the adjustment of the illumination method is made by way of at least one of selection between incident-light illumination and transmitting illumination as an illumination direction, selection between peripheral illumination and side illumination, and selection among a diffuser, a polarizer and a transmitted light without using filters as a filter for an illumination light.

8. (Previously presented) The magnifying observation apparatus according to claim 1, wherein the first observation conditions set with said first observation condition setting section

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includes a control of brightness of an image, wherein the control of the brightness of an image is done by at least one of the control of the light quantity of the illumination, adjustment of the shutter speed of the imaging sections, gain control, and control of white balance.

9. (Previously presented) The magnifying observation apparatus according to claim 1, wherein at least the characteristics of an observation subject is set with said first observation condition setting section.

10. (Currently amended) A method for operating a magnifying observation apparatus, said method comprising:

photographing an observation image with arbitrary observation conditions and displaying an arbitrary observation image photographed;

performing at least positioning and focusing on the arbitrary observation image displayed;

varying the observation conditions on the adjusted observation image and setting first observation conditions for acquiring a plurality of observation images of the observation image, each of the first observation conditions including a distinct pre-selected illuminating direction;

acquiring first observation images of the observation image per said plurality of first observation conditions set, each of the first observation images being acquired per a different one of the plurality of first observation conditions including a respective distinct illumination direction;

displaying the plurality of first observation images of the observation image acquired simultaneously;

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selecting a desired first observation image from among the plurality of first observation images displayed;

setting further observation conditions as required based on the first observation conditions set to the first observation image selected;

acquiring a second observation image based on the observation conditions set; and displaying the acquired second observation image.

11. (Currently amended) A computer-readable medium storing instructions for operating a magnifying observation apparatus, said instructions comprising:

photographing an observation image with arbitrary observation conditions and displaying an arbitrary observation image photographed;

performing at least positioning and focusing on the arbitrary observation image displayed;

varying the observation conditions on the adjusted observation image and setting first observation conditions for acquiring a plurality of observation images of the observation image, each of the first observation conditions including a distinct pre-selected illuminating direction;

acquiring first observation images of the observation image per said plurality of first observation conditions set, each of the first observation images being acquired per a different one of the plurality of first observation conditions including a respective distinct illumination direction;

displaying the plurality of first observation images of the observation image acquired;

selecting a desired first observation image from among the plurality of first observation images displayed;

setting further observation conditions as required based on the first observation

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conditions set to the first observation image selected;

acquiring a second observation image based on the observation conditions set; and
displaying a second observation image acquired.

12-15. (Canceled)

16. (Previously presented) The magnifying observation apparatus according to claim 1, wherein the illumination section comprises illuminating parts, and wherein the first observation conditions comprise the condition that all parts of the illumination parts are illuminated and/or the condition that one part of the illuminating parts is illuminated.

17. (Previously presented) The magnifying observation apparatus according to claim 1, wherein the illumination section comprises illuminating parts, and wherein the illumination section and the illuminating direction switching section comprises the condition that all parts of the illumination parts are illuminated and/or the condition that one part of the illuminating parts is illuminated.

18. (Previously presented) The magnifying observation apparatus according to claim 1, wherein the illumination section comprises a ring-shaped illuminating part.

19. (Previously presented) The magnifying observation apparatus according to claim 1, further comprising photographing adjustment means for photographing the observation subject under illumination conditions from respectively different angles by controlling the illuminating

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direction switching section of said illumination section per the illuminating conditions set to said first observation condition setting section.

20. (Canceled)

21. (Previously presented) The magnifying observation apparatus according to claim 1, wherein the first observation conditions of the first observation condition setting section are set automatically.

22. (Previously presented) The magnifying observation apparatus according to claim 1, wherein the first observation conditions of the first observation condition setting section are set arbitrarily.

23. (Previously presented) The magnifying observation apparatus according to claim 1, wherein the first observation conditions comprise the condition of an incident light illumination and the condition of a transmitting illumination.

24. (Previously presented) The magnifying observation apparatus according to claim 1, wherein the first observation conditions comprise the condition of a filter being present or absent, and wherein the filter is preferably a polarizer or a diffuser.

25. (Previously presented) The magnifying observation apparatus according to claim 1, wherein the observation image display section is identical with the first observation image

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display section.

26. (Previously presented) The magnifying observation apparatus according to claim 1, wherein a menu for setting the first observation condition is displayed on the display screen.

27. (Previously presented) The method according to claim 10, wherein varying the observation conditions comprises varying the illumination conditions of the observation subject.

28. (Previously presented) The method according to claim 27, wherein the illumination conditions comprise a plurality of different angles of illumination of the observation subject and/or the condition that all parts of the illumination parts are illuminated and/or the condition that one part of the illuminating parts is illuminated and/or the condition of an incident light illumination and/or the condition of a transmitting illumination and/or the condition of a filter being present or absent, wherein the filter is preferably a polarizer or a diffuser.

29. (Previously presented) The method according to claim 10, further comprising switching the illuminating direction of illumination means.

30. (Previously presented) The magnifying observation apparatus according to claim 1, further comprising display means for displaying an observation image based on a signal acquired by said photographing means.